

388 East Boynton Road • Kaysville, Utah 84037 • (801) 544-3641

24 October 1992

Wendell Owen  
Co-Op Mining Company  
P.O. Box 1245  
Huntington, Utah 84528

Dear Mr. Owen ,

Re: Revised Diversion Designs, Co-Op Mining Company, Bear Canyon Mine,  
\_\_\_\_\_ery County, Utah

Attached are three copies of pages 7-87, 7-87A, 7G-46, 7G-47, 7G-50, 7G-51, 7G-62, 7G-63, 7G-72, 7G-80, 7G-87, 7G-95, 7G-103, and 7G-104, dated 10/92. Two copies should be submitted to the Division. Corrections have been made in response to the Division Review dated 8 October 1992.

Attached is a list similar to the review from the Division. An explanation is given for each of the corrections made. A list of all the pages included in the proposed Diversion Design Revision is also included showing the latest revision date for each page. Pages have been marked "DRAFT" to differentiate them from those previously approved.

Thank you,



Kimly C. Mangum, P.E.

enclosure(s)  
cc: Charles Reynolds

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DIVISION OF  
OIL, GAS & MINING

## REVISED DIVERSION DESIGNS

<u>Page</u>	<u>Diversion</u>	<u>Revision Comments</u>
7-87	General	Pages 7-87 and 7-87A (Table 7.2-10) have been renumbered (reversed) so the disturbed ditches are listed before the undisturbed ditches. This conforms to the order used in Appendix 7-G.
	D-3D	- NO REVISION - Correction to max slope made on page 7G-46.
	D-4D	Average slope corrected to 7% to match that shown on page 7G-46 and included in calculations.
	D-7D	- NO REVISION - Correction to $D_{50}$ value made on page 7G-46.
	D-10D	Contributing watersheds clarified. Note that D-10D is located upstream from some of the listed area. The resulting design is conservative.
	D-10aD	Contributing watersheds clarified. Note that D-10aD is located upstream from some of the listed area. The resulting design is conservative.
7-87A	General	Pages 7-87 and 7-87A (Table 7.2-10) have been renumbered (reversed) so the disturbed ditches are listed before the undisturbed ditches. This conforms to the order used in Appendix 7-G.
	D-8U	Typical side slope corrected to match those shown on page 7G-88. Average slope corrected to 6% to match those shown on page 7G-47 and included in calculations.
	D-9U	Min and max slope corrected to match that shown on page 7G-47 and included in calculations.
	D-13U	- NO REVISION - Correction to max slope made on page 7G-47.
7G-46	D-3D	Max channel slope corrected to 18%
	D-7D	$D_{50}$ value corrected to 6".
	D-10D	Contributing watersheds clarified. Note that D-10D is located upstream from some of the listed area. The resulting design is conservative.
	D-10aD	Contributing watersheds clarified. Note that D-10aD is located upstream from some of the listed area. The resulting design is conservative.
7G-47	D-4U	$D_{50}$ value added for 18% slope.
	D-8U	Shower House Proposal slope values replaced with exiting 6% average slope
	D-13U	Corrections made to channel slopes.
7G-50	D-2D	Table corrected from "Velocity < 5 fps" to "Velocity $\approx$ 5 fps".
7G-51	D-2D	Mannings " $\eta$ " corrected to 0.030 as listed on page 7G-46.
7G-54	D-3D	- NO REVISION - Max slope corrected on page 7G-46 to match value used in calculation.
7G-56	D-4D	- NO REVISION - Average slope corrected on page 7-87 to match value used in calculation.

## REVISED DIVERSION DESIGNS (CONT)

7G-62	D-7D	Mannings " $\eta$ " corrected to 0.030 as listed on page 7G-46.
7G-63	D-7D	Mannings " $\eta$ " corrected to 0.030 as listed on page 7G-46.
7G-64	D-7D	- NO REVISION - Mannings " $\eta$ " corrected to 0.033 on page 7G-46 for 55% slope
7G-72	D-10aD	Mannings " $\eta$ " corrected to 0.033 as listed on page 7G-46.
7G-80	D-4U	Mannings " $\eta$ " corrected to 0.030 as listed on page 7G-47.
7G-81	D-4U	- NO REVISION - Mannings " $\eta$ " corrected to 0.033 on page 7G-47.
7G-87	D-7U	Mannings " $\eta$ " corrected to 0.030 as listed on page 7G-47.
7G-88	D-8U	- NO REVISION - Average slope corrected on page 7-87A to match value used in calculation.
7G-89	D-8U	"THIS PAGE NOT USED" The Shower House Proposal extends Ditch D-8U and requires additional calculations with new slopes that are not part of this proposal.
7G-90	D-8U	"THIS PAGE NOT USED" The Shower House Proposal extends Ditch D-8U and requires additional calculations with new slopes that are not part of this proposal.
7G-91	D-9U	- NO REVISION - Min slope corrected on page 7-87A to match value used in calculation.
7G-92	D-9U	- NO REVISION - Max slope corrected on page 7-87A to match value used in calculation.
7G-95	D-10aU	"THIS PAGE NOT USED" Ditch D-10aU was included as part of a violation later vacated. Calculations deleted.
7G-101	D-13U	- NO REVISION - Average slope not applicable. Slopes corrected on page 7-47 to match values used in calculation.
7G-102	D-13U	- NO REVISION - Max slope corrected on page 7-47 to match value used in calculation.
7G-103	D-14U	"THIS PAGE NOT USED" Ditch D-14U is part of the Shower House Proposal and not part of this proposal.
7G-104	D-14U	"THIS PAGE NOT USED" Ditch D-14U is part of the Shower House Proposal and not part of this proposal.

## **REVISED DIVERSION PROPOSAL LATEST REVISION DATES**

<b><u>Page</u></b>	<b><u>Date</u></b>
7-87 & 7-87A	10/92
7G-46 & G-47	10/92
7G-48 & 7G-49	7/92
7G-50 & 7G-51	10/92
7G-52 thru 7G-61	7/92
7G-62 & 7G-63	10/92
7G-64 thru 7G-67	7/92
7G-68 & 7G-69	8/92
7G-70 & 7G-71	7/92
7G-72	10/92
7G-73 thru 7G-79	7/92
7G-80	10/92
7G-81 thru 7G-86	7/92
7G-87	10/92
7G-88 thru 7G-90	8/92
7G-91 thru 7G-94	7/92
7G-95	10/92
7G-96	9/16/92
7G-97 & 7G-98	7/92
7G-99	8/92
7G-100 thru 7G-102	7/92
7G-103 & 7G-104	10/92